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Review

Critical review of literature on enterprise risk management and the cost of capital: The value creation perspective

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Enterprise risk management (ERM) encompasses the spectrum of identifying and analyzing risk from an integrated, company-wide perspective in a structured and disciplined approach in aligning strategy, processes, people, technology and knowledge with a purpose of evaluating and managing the uncertainties facing the enterprise as it creates value. ERM essentially lays concern for managing the firm's idiosyncratic risks apart from the systematic risks. However, the neo-classical finance theory (NCFT) postulates that managing the firm's idiosyncratic risks is irrelevant. ERM implementation framework embraces the active management of the firm's three classes of unsystematic risk, namely tactical risk, strategic risk and normative risk. This paper aims to provide a critical review of literature on the notion of managing firms' unsystematic (specific) risk via an ERM implementation framework that leads to the enhancement of shareholders' value. The mechanism through which the firms' value enhancement is supposed to take place is theorized by a strategic conceptualization of risk premium model.

Key words: Enterprise risk management, idiosyncratic risk, cost of capital, risk premium.

INTRODUCTION

The frequent occurrence of corporate financial reporting scandals of late has emerged enterprise risk management or ERM as a new paradigm for managing the portfolio of risks facing organizations. It offers a new mechanism which focuses on the improvement of corporate governance and the larger oversight on key risks to ensure that stakeholder value is enhanced and well preserved (Beasley et al., 2005; Walker et al., 2002).

Numerous regulatory reforms have globally contributed to the growth of ERM deployment. In the U.S. for example, the Sarbanes-Oxley Act of 2002 (SOX 2002) has significantly extended public policies related to effective corporate governance and risk management. The recent amendments in the New York Stock Exchange's (NYSE) Corporate Governance Rules saw the inclusion of specific requirements for NYSE registrant audit committees to shoulder explicit responsibilities with respect to "risk assessment and risk management". These responsibilities include the assessment and management of risks that are beyond financial reporting (Beasley et al., 2005; NYSE, 2003).

In a similar development, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in September 2004 had issued the enterprise risk management-integrated framework to provide a model framework for ERM. The COSO's framework defines ERM as follows: A process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives (COSO, 2004).

ERM implementation model encompasses managing

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the firm's three classes of unsystematic risk, namely, tactical risk, strategic risk, and normative risk. It functions within a conceptual framework to theoretically harness the positive dynamics of the causal relationships of the risks that are strategically associated with the firm's business performance and the cost of capital. The implementation model's focus on managing the firm's idiosyncratic risk, apart from those of systematic risks, is nonetheless at odds with the neo-classical finance theory (NCFT) which postulates that managing the firm's idiosyncratic risk is irrelevant. Hence, the objective of this paper is to critically review the scarce literature on the efficacy of ERM towards the cost of capital and its value creating mechanism from the perspective of shareholders as a result of its implementation.

THEORETICAL UNDERPINNINGS

Neo-classical financial theory and modern portfolio theory

Classical finance theory (CFT) advocates two primary risk management tools for investors in their wealth investment, namely, diversification and asset allocation. These two concepts of investors' risk management tools were first studied and popularized by Harry Markowitz (Belmont, 2004). Harry Markowitz in 1952 extended his work by introducing a model of portfolio theory. He theorized a relationship between risk and return. Markowitz's model of portfolio theory emphasizes on risk return trade-off in terms of mean-variance efficient portfolio, hence the introduction of the efficient frontier of various assets combination and weight. An efficient frontier of an investment domain represents a set of "efficient portfolios" that maximizes expected returns at a given level of portfolio risk, or that minimizes portfolio risk for a given expected return (Belmont, 2004).

Neo-classical financial theory (NCFT) applies these two powerful options of diversification and asset allocation and came up with modern portfolio theory (MPT) and capital asset pricing model (CAPM). NCFT however postulates that any internal risk management effort undertaken by the firm to reduce its idiosyncratic (firm-specific) risk will be of no value to shareholders because shareholders can easily employ the mentioned two risk management options and arguably at a cheaper cost, to attain the same purpose and effect through building an investment portfolios. This argument holds true unless firm-specific risk management can prove to result in the increase of the present value of the firm's cash flow. As such, internal risk management by the firm should focus only on reducing its systematic risk by such ways of hedging or buying insurance (Belmont, 2004). This conclusion of NCFT somehow runs counter to the initial value proposition of corporate risk management by the CFT. For instance, Markowitz's model of portfolio theory would suggest that if managers could find ways to minimize the firm's cash flows volatility, or "total risk", then they could create value for shareholders as long as the stabilized cash flows would not come at the expense of their expected value. NCFT such as CAPM, which extended Markowitz's portfolio theory, demonstrated that in equilibrium, the "market portfolio" is the only one efficient portfolio that applies to all investors, regardless of their risk preferences. Hence, therein gives rise to the notion of beta. Thus, according to CAPM, beta risk is the only risk that investors should be concerned about in equilibrium (Chatterjee et al., 1999).

Notwithstanding so, according to another school of thought such as the classic efficient market theory, even the management of systematic risk is futile. The argument is that it will not add value to shareholders since the costs of such activities like hedging and buying insurance policies will completely offset the value of eliminating such systematic risk. Hence, a zero sum game ensued for shareholders (Belmont, 2004; Doherty, 2000).

Capital asset pricing model (CAPM)

Systematic risk versus idiosyncratic risk

Treynor (1961), Sharpe (1964) and Lintner (1965) introduced capital asset pricing model (CAPM) by using the concepts of diversification and asset allocation, coupled with the modern portfolio theory as building blocks (Belmont, 2004; Bettis, 1983). Variables that are involved in CAPM's formulation are systematic risk, specific risk (idiosyncratic risk), beta, and risk premium. Core to CAPM's notion is the division of a security's total risk into two parts, namely the systematic risk (also called market risk) and the idiosyncratic risk (also called firm-specific or unique risk). CAPM explains systematic risk as the component of an asset's price variance that is affected by the movement of the general market. It is also referred to as market risk. The covariance of the market and the asset's price movements is measured by a coefficient called beta (ꞵ). Thus, systematic risk is the risk of holding the market portfolio (Belmont, 2004).

Idiosyncratic risk of an asset, on the other hand, is the other component of the asset's price variance that is unique to itself and has no correlation to the general market movement. This element of idiosyncratic risk can be eliminated through diversification within an asset class. Systematic risk, however, cannot be diversified away. Nevertheless, it can be hedged. According to CAPM, the marketplace is efficient and compensates investors for taking systematic risk. Exposure to idiosyncratic risk will not be compensated because CAPM expects investors to diversify that risk away without reducing returns and at no

cost in their portfolios' asset class (Belmont, 2004). The expected return of an asset (portfolio) under CAPM is given by:

$$E(R_i) = R_f + \beta^m_i [E(R_m) - R_f]$$

Where $E(R_i)$ is the expected return on asset$_i$; R_f is the return on a risk-free asset; β^m_i measures the covariance of asset$_i$'s return to that of the market; $E(R_m)$ is the expected return on the market. Since β (beta) measures the sensitivity of an investment's return to movements of the entire market, stocks with a beta of less than 1 will be less risky than the market whilst those with a beta greater than 1 will be more risky than the market (Bettis, 1983). In the CAPM formula term, the product of $\beta^m_i [E(R_m) - R_f]$ represents risk premium for stock i. In other words, it is the compensation for the stock's exposure to the systematic risk. CAPM's assumptions are:

i. There are no taxes or transaction costs.
ii. All investors have identical investment horizons.
iii. All investors have identical perceptions regarding the expected returns, volatilities and correlations of available risky investments.

In the context of NCFT's uniform assumptions of such a simple world (that is, perfect and complete markets), Tobin's (1958) saw a super-efficient portfolio as represented by the market portfolio. Bettis (1983) pointed out that although CAPM's equation is explained in terms of stock returns, it has a parallel implication in capital budgeting situations in that:

$$r = R_f + (\text{project beta}) (R_m - R_f)$$

where r is the required rate of return on the project. Hence, the required rate of return on a project increases in tandem with the project's beta. It then follows that the true cost of capital is influenced by the risk profile of the project for which the capital is put to use (Bettis, 1983).

Critics of capital asset pricing model (CAPM)

CAPM has been subjected to many challenges ranging from its simplistic assumptions to the predictive ability of beta; hence its theoretical veracity has been critically questioned (Lusk et al., 2008; Fama and French, 2004; Chatterjee et al., 1999). Many scholars such as Grossman and Stiglitz (1980) and Stein (1988, 1989) rejected CAPM's perfect market assumption citing information asymmetries that exist in the markets. These informational asymmetries have created principal-agent problems which prompted agency theorists championing the setting up of a proper governance mechanism within corporate structure (Chatterjee et al., 1999). Fama and French (2004) described the version of CAPM developed by Sharpe and Lintner which has never been an empirical success.

Unsystematic risk and risk premium

CAPM's theoretical framework implies that there is no favorable risk pricing effect for any deliberate effort on the part of the firms to manage and reduce their unsystematic risks. However, assuming there was a significant positive impact on managing unsystematic risk and the effect shall be captured in a risk pricing formula, how should the variables in the asset pricing model such as CAPM change?

In Equation 1, it should follow that variable r, representing the required rate of return for an asset or a project, should be reduced due to the lower risk profile (either perceived or otherwise). A lowered r, which is also used for discounting firms' expected cash flows, should yield a higher firm value as follows:

$$\text{Firm value} = \boxtimes E(CF_t) / (1 + r_t)^t \quad \text{---- (1)}$$

Where $\boxtimes E(CF_t)$ is the sum of all expected cash flows, t is the time period, and r is the discount rate. And according to NCFT, on the basis of maximizing shareholders' wealth, the appropriate firm-decision rule is for managers to pursue all investment opportunities that will yield a positive net present value (NPV) (Belmont, 2004).

In the CAPM's formula $E(r) = R_f + \beta^m_i [E(R_m) - R_f]$, where R_f is the risk free rate, β^m_i is the firm's (asset) beta or the correlation coefficient of that particular firm to the market portfolio. The term $[E(R_m) - R_f]$ is the market potfolio's risk premium and the term $\beta^m_i [E(R_m) - R_f]$ is the firm's risk premium. The reduction of expected or required rate of return, E(r), will be significantly influenced by the firm's risk premium term, or $\beta^m_i [E(R_m) - R_f]$. The return on a risk-free asset (R_f) and the expected return on the market $[E(R_m)]$ are exogenous variables and externalities to the firm where effectively there is nothing much managers can do to influence them managerially other than to hope for market forces to change in the favorable direction for the overall risk pricing reduction. The same applies to the firm's beta (β^m_i). Beta measures the covariance of the firm's return to that of the market portfolio, in other words, it is the measurement for the firm's systematic risk. The only way the beta of the firm will change is by way of the firm varying its existing business line so that its business risk profile relative to that of the market shifts. One example of this is to initiate business diversification through either the firm's product lines or target markets. But this managerial maneuvering involves the systematic risk dimension of the firm. As such, in order to capture the positive effect of managing

the firm's unsystematic risk and to reflect it in the CAPM equation, we need to include an additional variable that is, ③, to effect the impact of the firm's risk premium term. This variable should present in negative value so that it can have diminishing effect on the term β^{m}_{i} [$E(R_m) - R_f$] such that the new risk premium term of the firm becomes β^{m}_{i} [$E(R_m) - R_f$] - ③. Thus, the modified CAPM formula that recognizes the effect of managing a firm's unsystematic risk shall take the form of:

$$E(R_i) = R_f + \beta^{m}_{i} [E(R_m) - R_f] - ③ \quad \text{---- (2)}$$

Conceptually, it should be noted in the Equation 2 that the effect of unsystematic risk does not appear in the form of a direct reward for bearing them in the way similar to bearing systematic risk in the asset pricing model. Rather, the reward is derived from its successful reduction or elimination. The inclusion of the term -③ in Equation 2 suggests that the firms are to be rewarded for their ability to reduce those unique risks that they face. The rationale for this reward is by giving the recognition that investors are not always able to hold a fully diversified portfolio such as that of market portfolio and that managing unsystematic risk can result in the firms enhancing their capability to improve earnings. This earnings improvement can come in the form of reducing or eliminating negative profit variation, reducing cost of financial distress, lowering firms' risk premium and tax burdens, minimizing agency problem, avoiding costly external financing, enhancing corporate brand name and the likes (Dionne and Garand, 2000; Doherty, 2000b; Cummins and Smith, 1998; Stulz, 1996; Tufano, 1996; Froot et al., 1993). Managers, thus, should endeavor to manage firms' unsystematic risk well enough to earn the largest possible value of -③ as possible from the investors in order to reduce the firms' required rate of return (risk premium) or cost of capital.

In the context of asset pricing modeling, the notion for managing firms' unsystematic risk can be derived from the hypothesis that investors would welcome such a reduction in idiosyncratic risks by the firm. As a result, investors would demand a relatively lower risk premium for their investment in the firm and this hypothesis is represented by the term -③ as in Equation 2. Nonetheless, great challenge remains in quantitatively measuring the variable ③ for the firms' valuation in managing the firm's idiosyncratic risk. This shall remain an important area for future research.

ENTERPRISE RISK MANAGEMENT IMPLEMENTATION FRAMEWORK

Managing risk individually vis-à-vis integrated approach

Risk management has traditionally been practiced to merely comply with the many new rules and regulation because risk is typically seen as a negative element and is to be avoided. Due to this reason, risk is often being addressed in silo. However, a strategic view should treat risk management process to improve the linkage between risk and opportunity so as to position it as a source of competitive advantage for the organization. Its approach should be positive and proactive, value-based, broadly focused and should be lined up with corporate strategies, objectives and goals (IAAS, 2008; Bierc, 2003; Meagher and O'Neil, 2000).

The operational definition

Chapman (2003) defined ERM as the process of identifying and analyzing risk from an integrated, company-wide perspective. Meagher and O'Neil (2000) on the other hand, described it as a structured and disciplined approach in aligning strategy, processes, people, technology and knowledge with a purpose of evaluating and managing the uncertainties the enterprise faces as it creates value. Stoke (2004) viewed ERM to become an essential element of modern business as the focus for corporate risk management is shifting from operational hazards and pure financial risks to a much more strategic view of threats to business success and an appetite for upside risk. Stoke added that by combining this with a more holistic, top-down approach to risk strategy and appetite, companies can focus their attention on most significant threats to business objectives and achieve even greater value from risk management. Liebenberg and Hoyt (2003) concurred that unlike the traditional "silo-based" approach to corporate risk management, ERM enables firms to benefit from an integrated approach in managing risk that shifts the focus of risk management function from primarily defensive to increasingly offensive and strategic.

The Committee of Sponsoring Organizations of the Treadway Commission's (COSO) ERM's model consists of 8 components: internal environment, objective setting, event identification, risk assessment, risk response, control activities, information and communication and monitoring (COSO, 2004; Chapman, 2003). In comparison, the Arthur Andersen Business Risk Management Process (BRMP) develops a risk management framework that comprises 7 elements: (i) establish the business risk management process, (ii) assess business risks, (iii) develop business risk management strategies, (iv) design/implement risk management capabilities, (v) monitor risk management performance, (vi) continuously improve risk management capabilities, (vii) information for decision making (Meagher and O'Neil, 2000).

To ensure successful enterprise-wide risk management process implementation, Meagher and O'Neil (2000) emphasized the following 4 dimensions: (i) moving away from fragmented approach, towards an integrated and systematic framework that gives credibility to the risk

management role within the business; (ii) identifying risk management goals and linking them to enterprise's strategies; (iii) delegating responsibility for risks and making managers accountable to the board for continuously improving the management of those risks; (iv) do not only manage individual risks, but be able to systematically pool them and assess risk as a portfolio for the enterprise as a whole.

In comparison to the old silo-approach of risk management, ERM proponents argue that an integrated approach of risk management increases firm value by reducing inefficiencies inherent in the traditional approach, improving capital efficiency, stabilizing earnings and reducing the expected costs of external capital and regulatory scrutiny (Liebenberg and Hoyt, 2003). Bierc (2003) argued that a strategic risk management framework such as ERM should be developed and pursued with substantial regard to the key drivers that would impact success and value of a corporation. It should keep an organization focused on the things that drive success as well as provide the tools that can effectively measure organizational execution.

In a nutshell, an ERM initiative typically encompasses the following activities: (i) articulating and communicating the objectives of the organization, (ii) determining the risk appetite of the organization, (iii) establishing an appropriate internal environment, including a risk management framework, (iv) identifying potential threats to the achievement of the objectives, (v) assessing the risk that is, the impact and likelihood of the threat occurring, (vi) selecting and implementing responses to the risks, (vii) undertaking control and other response activities, (viii) communicating information on risks in a consistent manner at all levels in the organization, (ix) centrally monitoring and coordinating the risk management processes and the outcomes, (x) providing assurance on the effectiveness with which risks are managed.

ERM VALUE TRANSMISSION MECHANISM AND THE COST OF CAPITAL

A strategic conceptualization of risk premium

Traditionally, corporate risk management aims to minimize financial losses and maximize financial opportunities facing organizations by incorporating a logical and systematic method of establishing the context, identifying, analyzing, evaluating, mitigating, monitoring and communicating risk associated with any financial activity (Belmont, 2004). ERM's framework establishes additional goals of dealing with all business activities to minimize/maximize other aspect of business losses/ opportunities such as reputation, branding, governance, and corporate entrepreneurship, to name a few. Contrary to the NCFT's view, ERM highlights the importance for managing unsystematic risk with the belief that it will lead to an enhanced shareholders' value. This concept blends well with the value-enhancing notion of corporate risk management as postulated by strategy theory.

To support this shareholders' value enhancing notion of managing the firm's idiosyncratic risk via ERM framework, it is theorized that the value transmission mechanism to take place through the strategic conceptualization of the firm's risk premium. This strategic risk premium model shall capture the causal relationships of the idiosyncratic risks that are strategically associated with firm performance.

Chatterjee et al. (1999) postulated that investors are exposed to various classes of firm-specific risk in a world of partial diversification and imperfect markets. Chatterjee et al. (1999) conceptualized that there are dynamic relationships between three classes of firm's unsystematic risk (that is, tactical, strategic and normative risks) and the firm's risk premium. Tactical risk exists mainly in information asymmetries, whilst strategic risk comes from imperfections in the resource and output markets. Normative risk presents itself in the forces that define institutional norms.

Tactical risk

The nature of tactical risk lies with the uncertainty in firm's expected earnings. It is based on the assumption that investors are averse to earnings surprises owing to information asymmetries. Hence, investors will request lower risk premium from firms who can stabilize earnings. Firms can employ three strategies to manage tactical risk, that is, the use of financial tactics, hedges and real options. Chatterjee et al. (1999) pointed out that financial tactics include earnings management, governance, and liquidity. Chatterjee et al. (1999) cited earnings management literature which indicates that the use of financial tactics can minimize information asymmetries that exist between management and investors. This will result in enhancing investors' ability to forecast earnings. The support for the argument of the mentioned firm-specific actions and risk premium relationship also come from governance literature which indicates that investors will raise a firm's risk premium if the firm fails to provide satisfactory market oversight by adopting a poison pill tactic.

Strategic risk

The nature of strategic risk is due to the uncertain performance outcomes from the firm's committed resources. It is caused mainly by imperfections in resource and output markets. Since firms' survival in the marketplace hinges on how well the firms formulate

strategy in committing and deploying their scarce yet precious resources to stay competitive, it follows that risks exist if the goal to attain and sustain such competitive advantage from the committed resources cannot be achieved. Thus strategic risk is defined as the chances that a firm can isolate its earnings from macroeconomic and industry-specific threats (Chatterjee et al., 1999).

The concept of earnings isolation can find its core in strategy literature. Strategy literature provides good accounts for various determinants of strategic risk. These include the firm-structure view, resource-based view, knowledge-based view and strategic options view (Barney, 1991; Rumelt, 1984). Porter (1980) analyzed strategic risk from the firm-structure view. He categorized strategic risk in his "five forces" analysis of market rivalry and "diamond theory" of national competitive advantage (Daniels et al., 2007). Porter's five forces of market rivalry are 1) supplier power, 2) threat of substitutes, 3) degree of rivalry, 4) buyer power, and 5) barriers to entry.

The resource-based view (RBV) of strategic risk argues that a firm may keep its resource-based advantages from the knowledge of its rivals. This is because valuable resources are sometimes intangible and tacit, coupled with the fact that their distribution is not homogeneous. The nature of these advantages hence, enables a firm to keep them invisible from the detection of competitors. As a result, it will help cripple competitors' effort to strategize against the firm (Barney, 1991; Connor, 1991).

Chatterjee et al. (1999) highlighted the knowledge-based view that the ability of firms to absorb, interpret and commercialize critical information on a timely basis is asymmetrically distributed. Examples are Intel and Microsoft which enjoy low risk premiums because of their knowledge advantages on innovation that have enabled them to reinvent their product life cycles. This has resulted in the creation of asymmetries for future advantage which in turn has partially isolated their earnings from technological obsolescence.

The strategic options literature explains that strategic options enable firms to create possible avenue for new growth and to create the opportunity to redirect strategy in the existing business model. Firms undertake strategic options in order to mitigate specific sources of macroeconomic and industry-specific disturbances risk (Chatterjee et al., 1999). Miller (1998) suggested acquiring a key supplier to minimize the sensitivity of its cash flows to price variability of non-commodity inputs.

Normative risk

Chatterjee et al. (1999) argued that any risk premium advantages attained through active management of tactical and strategic risks will soon be imitated by competitors and neutralized due to competitive forces. Tactical and strategic actions will then lose its uniqueness and differentiating factor but become institutionalized and pre-requisites for firm to stay in the industry. Normative risk, thus, is defined as the risk premium (or penalty) that a firm is subjected to if it fails to comply with its institutional norms or rules that it is expected to follow. These norms represent the common expectations of the firm's stakeholders (that is, investors, regulators, interest groups) with regards to its behavior (Graf, 2004). Firms will be slapped with higher risk premium if they fail to observe them. Financial accounting literature such as Jones (1996) noted consistent evidence that the incremental information provided by going-concern audit opinions had an influence on investors' reaction.

Table 1 summarizes the corresponding definition of the three classes of the unsystematic risks and the relevant literature from where the argument of their dynamic relationships with the firm's risk premium is derived.

CONCLUSIONS AND DIRECTIONS FOR FUTURE RESEARCH

Previous research works on corporate risk management were mainly concentrated on financial risk management and corporate performance (Markides, 1994; Zey and Swenson, 2001). Other studies looked at management theories to justify and rationalize the practice of risk management by the firm (Crouhy et al., 2000). There are very few empirical studies examining the impact of an enterprise-wide practice of risk management on corporate performance and value creation with discussion beyond financial risk management and much less on the examination of value creating transmission mechanism for such an enterprise-wide risk management practice. The lack of studies in this area is probably due to the fact that ERM framework entails managers to engage in initiatives which are seen to reduce firm-specific risks. Most finance theories such as that of NCFT and CAPM posit that all firm-specific activities are irrelevant in influencing a firm's risk premium. Nonetheless, ERM has in recent years gained popularity in the corporate scene as a robust corporate risk management framework to address the many facets of risk facing the firms. As a result, ERM has also begun to attract many interests from researchers to investigate its efficacy on enterprises' and shareholders' value creation from its implementation.

A few areas can be the focus of future research. Firstly, exploratory examination onto ERM implementation framework and empirical investigation into its value creating impact from the perspective of shareholders. Data can be collected from public listed companies to test hypotheses in relation to ERM's efficacy on corporate value creation such as improved business performance and lowered cost of capital. Studies of such nature will facilitate the development of a predictive model in anticipating ERM successes through examining the relevant

Table 1. Strategic conceptualization of risk premium (CLS model).

Firm-specific risk class	Definition	Source of risk	Relevant literature	Risk management objective	Action
Tactical	Uncertainty in firm's expected earnings	Informational asymmetries	Earnings management Governance management Liquidity management Information management Hedging Real options	To lower the variance of expected earnings through minimizing earnings surprises/ variation from informational asymmetries	Engage in financial tactics, e.g. hedges and real options contracts
Strategic	Uncertainty in performance outcomes of committed resources	Resource and output markets imperfection	Strategy Firm- structured view Resource-based view Knowledge-based view Strategic options	To isolate earnings from macroeconomic and industry-specific disturbances	Shape market forces in firm's competitive arena to gain advantage
Normative	Incurring risk premium for failing to comply with institutionally expected norms	Forces of institutional norms	Diminishing competitive advantage view Dynamic market forces view	To reduce cost and avoid bearing additional risk without the promise of higher return	Comply to industry rules and conform to institutionally expected norms

factors of implementation intensity and challenges as well as the benefit measures. Secondly, theoretical and empirical examination into the value creating transmission mechanism for ERM implementation. A structural equation model can be developed to theorize the connection between the various dimensions of ERM implementation with a strategic risk premium model like the one conceptualized by Chatterjee et al. (1999). Reduction of the firm's risk premium will have a direct impact on the firm's cost of capital. The findings of the above research will be significant in contributing towards espousing the notion of managing the firm's idiosyncratic risks. They may provide strong foundations to further argue and research the area of multi-factor risk-return modeling.

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